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Support for the Symposium on the Application of Geophysics to Environmental and Engineering Problems, 2012-2014

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5b. GRANT NUMBER

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Various, per proceedings

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1720 S. Bellaire St., Ste. 110

Denver, CO 80222 -4303

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Support for the Symposium on the Application of Geophysics to Environmental and Engineering Problems

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Proceedings of the Symposium for the Application of Geophysics to Environmental and Engineering Problems

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a. REPORT	b. ABSTRACT	c. THIS PAGE			William Doll
UU	UU	UU	UU		19b. TELEPHONE NUMBER: 865-483-2548

Report Title

Support for the Symposium on the Application of Geophysics to Environmental and Engineering Problems, 2012-2014

ABSTRACT

Support for the Symposium on the Application of Geophysics to Environmental and Engineering Problems

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Enter List of papers submitted or published that acknowledge ARO support from the start of the project to the date of this printing. List the papers, including journal references, in the following categories:

(a) Papers published in peer-reviewed journals (N/A for none)

Received Paper

TOTAL:

Number of Papers published in peer-reviewed journals:

(b) Papers published in non-peer-reviewed journals (N/A for none)

Received Paper

TOTAL:

Number of Papers published in non peer-reviewed journals:

(c) Presentations

Number of Presentations: 0.00

Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

Received Paper

TOTAL:

Number of Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

Peer-Reviewed Conference Proceeding publications (other than abstracts):

Received Paper

TOTAL:

Number of Peer-Reviewed Conference Proceeding publications (other than abstracts):

(d) Manuscripts

Received Paper

TOTAL:

Number of Manuscripts:

Books

Received Book

TOTAL:

Received	Book Chapter

TOTAL:

Patents Submitted

Patents Awarded

Awards

Graduate Students

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Post Doctorates

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Faculty Supported

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Under Graduate students supported

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Student Metrics

This section only applies to graduating undergraduates supported by this agreement in this reporting period

The number of undergraduates funded by this agreement who graduated during this period: 0.00

The number of undergraduates funded by this agreement who graduated during this period with a degree in science, mathematics, engineering, or technology fields:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and will continue to pursue a graduate or Ph.D. degree in science, mathematics, engineering, or technology fields:..... 0.00

Number of graduating undergraduates who achieved a 3.5 GPA to 4.0 (4.0 max scale):..... 0.00

Number of graduating undergraduates funded by a DoD funded Center of Excellence grant for Education, Research and Engineering:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and intend to work for the Department of Defense 0.00

The number of undergraduates funded by your agreement who graduated during this period and will receive scholarships or fellowships for further studies in science, mathematics, engineering or technology fields: 0.00

Names of Personnel receiving masters degrees

NAME

Total Number:

Names of personnel receiving PHDs

NAME

Total Number:

Names of other research staff

NAME PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Sub Contractors (DD882)

Inventions (DD882)

Scientific Progress

This does not apply to SAGEEP

Technology Transfer

SAGEEP 2014

SYMPOSIUM ON THE APPLICATION OF GEOPHYSICS TO ENGINEERING & ENVIRONMENTAL PROBLEMS

BOSTON, MASSACHUSETTS

Boston Marriott Copley Place
March 16–20 2014

INSIDE

- Schedule-at-a-Glance
- Technical Sessions Schedule
- Exhibit Hall & Hotel Floor Plans
- Luncheons
- EEGS Luncheon/Annual Meeting
- Student Event at Kings Boston
- Outdoor Demonstrations/Historic Trinity Church in Copley Square
- Full Day Excursion to Boston's North Shore/ Cape Anns Brewery

WWW.EEGS.ORG/SAGEEP 2014

SAGEEP 2014 SCHEDULE-AT-A-GLANCE

Sunday March 16

8:30am-4:30pm	Rockport/Halibut Point State Park/Cape Ann Brewery/Ryan and Wood Distillery Field Trip
8:00am-5:00pm	**CANCELLED SC-1: Google Earth Applications in Education and Research - Suffolk** Instructor: Steven Whitmeyer, James Madison University
8:30am-4:30pm	**SC-2: Environmental Applications of the Induced Polarization Method - Wellesley** Instructors: Lee Slater and Dimitrios Ntarlagiannis, Rutgers-Newark, New Jersey
3:30-4:30pm	Student Training Session - Harvard
5:30-7:30pm	Ice Breaker - Exhibit Hall

Monday March 17

8:40-10:20am	**Awards/Keynote Session: *Alfred William Eustes III, Colorado School of Mines* - Salon E**			
10:20-10:40pm	**Coffee in Exhibit Hall**			
	Simmons	**Wellesley**	**Suffolk**	**Arlington**
10:40am-Noon	SPECIAL SESSION: Best of 2013 EAGE/NSGD			
12:00-1:40pm	**Lunch on Own**			
1:40-3:20pm	Ground Penetrating Radar (GPR)	Gravity	General and Unconventional Geophysics	Geophysics in Landfill Analysis
3:20-3:40pm	**Coffee in Exhibit Hall**			
4:00-6:00pm	**Exhibitor Equipment Outdoor Demonstrations - Trinity Church Grounds/Copley Square (walking distance)**			
6:00-11:00pm	**Student Event – Kings Boston**			

Tuesday March 18

7:40-8:20am 8:20-10:00am	Poster Presentations Airborne Geophysics & Remote Sensing	Electromagnetics	Infrastructure	Borehole Geophysics
10:00-10:40am	**Coffee in Exhibit Hall and Poster Viewing in Exhibit Hall Foyer Area**			
10:40am-Noon	Airborne Geophysics & Remote Sensing (continued)	Electromagnetics (continued)	Infrastructure NDE&T for Bridges & Concrete Structures	Borehole Geophysics (continued) Hydrogeophysics
12:00-1:40pm	Luncheon: *Speaker John Ebel, Boston College* - Salon F			
1:40-3:40pm	Airborne Geophysics & Remote Sensing (continued)	Electrical-RES, IP, Self Potential	NDE&T for Bridges & Concrete Structures (continued)	Hydrogeophysics (continued)
3:40-4:00pm	**Coffee in Exhibit Hall and Poster Viewing in Exhibit Hall Foyer Area**			
4:00-6:00pm	Agricultural Geophysics	Electrical-RES, IP, Self Potential (continued)	Highway Geophysics	Water Resources/Supply Investigations
6:30-11:00pm	Conference Evening - Cocktails, Dinner & Wine - Salon G			

Wednesday March 19

7:40-8:20am 8:20-10:00am	Poster Presentations Munitions Detection Systems & Software	Seismic Refraction/ Reflection	Archaeological Geophysics	Advances in Electrical Resistivity Imaging
10:00-10:40am	**Coffee in Exhibit Hall and Poster Viewing in Exhibit Hall Foyer Area**			
10:40am-Noon	Munitions Detection Systems & Software (continued)	Seismic Refraction/ Reflection (continued)	Archaeological Geophysics (continued)	Advances in Electrical Resistivity Imaging (continued)
12:00-1:40pm	EEGS Luncheon: *Speaker Steven Arcone* - Salon F			
1:40-3:40pm	UXO	Surface Wave & Passive Seismology	Geophysical Data Management (GIS)	NMR & Magnetics
3:40-4:00pm	**Coffee in Exhibit Hall and Poster Viewing in Exhibit Hall Foyer Area**			
4:00-5:40pm	Live UXO Data Analysis	Surface Wave & Passive Seismology (continued)	Karst, Tunnels & Other Cavities	NMR & Magnetics (continued)

Thursday March 20

8:00am-5:00pm	**SC-3: Overview of Utility Locating Technologies - Suffolk** Instructor: Ralf Birken, Northeastern University
	SC-4: Multichannel Analysis of Surface Waves (MASW) Fundamentals Plus - Wellesley Instructors: Choon Park, Park Seismic LLC, and Mario Carnevale, Hager Geoscience, Inc.

REGISTRATION

The registration desk will be open in the registration area during the following hours.

Sunday, March 16	7:00 am – 8:00 pm
Monday, March 17	7:00 am – 7:00 pm
Tuesday, March 18	7:00 am – 6:00 pm
Wednesday, March 19	7:00 am – 5:40 pm

Thursday, March 20 Registration
Registration will be open from 7:00 am - 9:00 am outside the Short Course rooms for on-site registrations.

Emergency Procedures
Should an emergency arise while at SAGEEP, please go to the registration counter located outside the Exhibit Hall, or contact the Conference Center operator at the nearest telephone.

Name Badges
Name badges are your admittance to any part of the Conference and Exhibits and some social events. Attendees without a badge will be asked to confirm their registration and be issued another badge at a charge of $20. There will be no exceptions. Exhibitor personnel badges are restricted to use in the Exhibition Hall only.

PLEASE BE SURE TO WEAR YOUR BADGE AT ALL TIMES.

Speaker Information
All speakers are encouraged to be in their presentation rooms ½ hour prior to their scheduled speaking engagement. Please visit the SAGEEP registration counter to request further assistance.

Proceedings
A Symposium Proceedings CD-ROM is included in the full conference registration fee. Additional 2014 SAGEEP Proceedings may be ordered at the registration counter.

Job Posting Board
The job posting board, located in the registration area outside the Exhibit Hall, is available to all attendees who want to advertise a job opening or post resumes for review.

EEGS Information
Please visit the EEGS Bookstore, adjacent to the registration area, for membership and other society information or to purchase EEGS merchandise, books, past SAGEEP Proceedings, copies of the *Journal of Environmental & Engineering Geophysics*, and *FastTIMES*.

Evaluation Forms
Your evaluation of the papers presented is important. Please make certain that you take a moment to fill out the forms. Evaluation boxes will be available outside each session room, in the exhibition hall and at the registration counter. Student Volunteers will also be available during the sessions to collect your completed evaluations.

Student Networking
After Monday's Exhibitor Equipment Outdoor Demonstrations, students are invited to join others for the Student Event at 6:00 pm. Students are also encouraged to register for and attend the SAGEEP Conference Evening Event, the Luncheon on Tuesday, March 18 and the EEGS Luncheon on Wednesday, March 19. And, if you haven't volunteered to work at SAGEEP, do so at the registration counter.

TABLE OF CONTENTS

SPECIAL MEETINGS

EEGS BOARD MEETING

Thurs., March 20 7:00 am – 5:00 pm
(Continental Breakfast 7 am)

Fri., March 21 7:00 am – 12:00 pm
(Continental Breakfast 7 am)

Location: Regis

Chair: Catherine Skokan

STUDENT COMMITTEE

Mon., March 17 12:30 pm - 1:30 pm

Location: MIT

Chair: Laura Sherrod

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BOSTON, MASSACHUSETTS

Esteemed Colleague,

I am very pleased to invite you to the 27th Annual Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) at the Boston Marriott Copley Place Hotel in Boston, Massachusetts. It has been 20 years since SAGEEP last met in Boston. It is very exciting for us to welcome everyone back to Boston, especially those of us who were involved with planning the meeting here in 1994.

The conference will formally open on Sunday afternoon with the Ice Breaker. On Monday morning, Keynote Speaker, Bill Eustes, Associate Professor in Petroleum Engineering and Distinguished Lecturer at the Colorado School of Mines, will speak on the subsurface exploration on Mars. Bill's talk will focus on drilling below the Martian surface, as well as the geophysical exploration scheduled to start in 2016. The Keynote Session will be followed by a Special Session containing the papers awarded "Best of 2013 EAGE/NSGD."

The technical program, put together most capably by Mario Carnevale, will feature over 200 oral and poster presentations from Monday through Wednesday afternoon, with topics ranging from A (Agricultural Geophysics) to U (UXO). Posters will be set up adjacent to the Exhibit Hall, with some expanded coffee breaks to allow more interaction with poster presenters. In addition, short poster summaries for each day's poster session will begin the Tuesday and Wednesday programs before the start of the oral presentations.

Bill Doll, Short Course Chair, has assembled an impressive array of courses on a variety of topics. Sunday, March 16th, will showcase courses on Google Earth and Induced Polarization Applications. Thursday will have MASW Fundamentals Plus and Utility Locating Technologies Overview.

Other SAGEEP activities will include a Sunday North Shore field trip, a Monday afternoon Outdoor Demonstration, Monday evening Student Event, and Tuesday evening special Conference Dinner event set up by our Exhibits Organizer Micki Allen.

Tuesday and Wednesday will include exciting luncheon presentations by two eminent geophysicists working in New England. On Tuesday, Professor John Ebel from Boston College will present a talk summarizing the history of Boston's expanded fill area and focusing on the soil amplification and liquefaction potential in the area. On Wednesday, Dr. Steven Arcone will discuss his ground penetrating radar investigation of the sub-bottom sediment and bedrock characteristics of Mirror Lake in Woodstock, New Hampshire.

Boston is an eminently walkable city that can best be explored on foot or with public transportation. If time and inclination permit, you will find innumerable non-geophysical activities in and around Boston, ranging from intellectually stimulating arts and science to those designed to satisfy your palate. You can attend concerts or plays, or visit one or more of our museums (Fine Arts, Isabella Stuart Gardner, ICA art museums and Museum of Science). Students of early American history can visit the National Park Service's Minute Man National Park in Lexington and Concord, site of the "shot heard round the world."

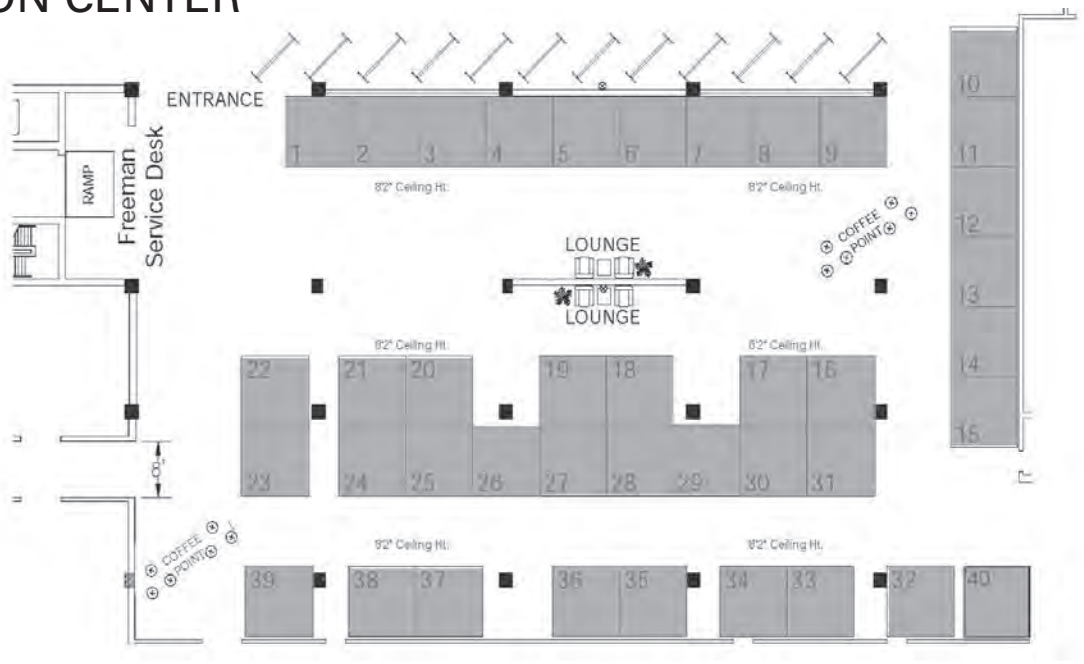
Sample food from around the world and enjoy the atmosphere to go with it. The Faneuil Hall/ Quincy Market area is a good place to start grazing, perhaps followed by a visit to the Black Rose Irish pub and a stop for ricotta pie from Mike's Pastry in the Italian North End.

Come and enjoy the conference and all that Boston has to offer. We look forward to having you join us here, in Boston.

Jutta Hager, SAGEEP 2014 General Chair
Boston, Massachusetts

WELCOME

EXHIBIT HALL - BACK BAY CONFERENCE AND EXHIBITION CENTER



2014 SAGEEP EXHIBITORS LIST

COMPANY	BOOTH #
Advanced Geosciences, Inc.	1
Australian Society of Exploration Geophysicists	Display in Exhibit Hall Foyer
Battelle	35
CGG	2
DECO Geophysical Software Company	7
DMT GmbH & Co. KG	21
DW Consulting	30
EAGE NSD	15
Environmental Equipment & Supply	33
Exploration Instruments, LLC	3
GEM Advanced Magnetometers	13
Geogiga Technology Corporation	9
Geomar Software Inc.	14
Geometrics, Inc.	19
Geonics Limited	12
Geophex, Ltd.	31
Geoscientists *Without* Borders®	25
Geosoft, Inc.	18
Geostuff, Inc.	39
GF Instruments	17
GISCO, Inc.	40
GSSI	5
Hager GeoScience, Inc.	6
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Intelligent Resources Inc.	34
Interpex Limited	23
IRIS Instruments	11
MALÅ Geoscience USA, Inc.	20
Mount Sopris Instrument Co., Inc.	22
NDT Corporation	29
Olson Engineering, Inc.	10
PetRos EiKon Incorporated	32
Pro-Seismic Services, LLC	37
RT Clark Co., Inc.	8
Seismic Source Company	27
Seistronix, LLC	36
Sensors & Software Inc.	16
Society of Exploration Geophysicists	24
Terraplus, Inc.	26
Vista Clara, Inc.	4
Zonge International, Inc.	38

Exhibition Hall Schedule

Sunday, March 16

5:30 pm – 7:30 pm	Ice Breaker

Monday, March 17

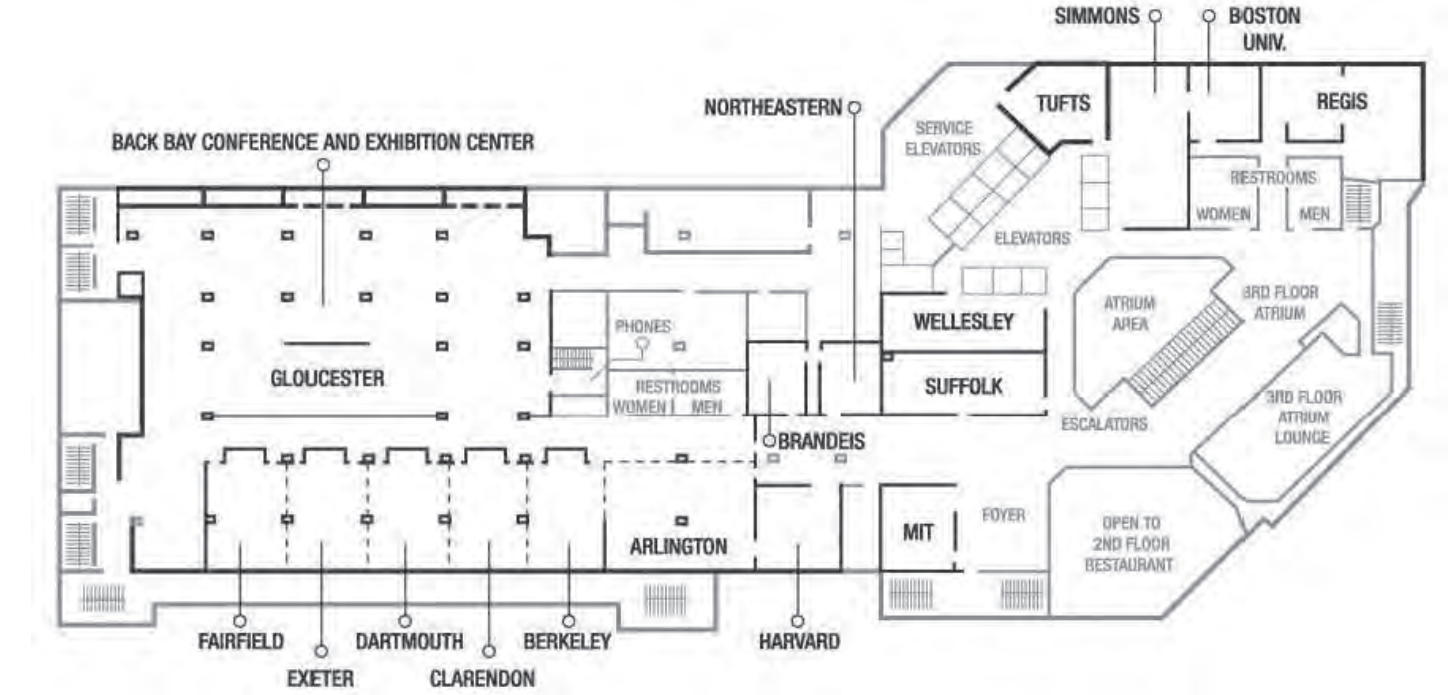
10:20 am	Exhibit Hall Opens
10:20 am – 10:40 am	Coffee Break
3:20 pm – 3:40 pm	Coffee Break
3:41 pm	Exhibit Hall Closes

Tuesday, March 18

10:00 am	Exhibit Hall Opens
10:00 am – 10:40 am	Coffee Break
3:40 pm – 4:00 pm	Coffee Break
5:30 pm	Exhibit Hall Closes

Wednesday, March 19

10:00 am	Exhibit Hall Opens
10:00 am – 10:40 am	Coffee Break
3:40 pm – 4:00 pm	Coffee Break
4:01 pm	Exhibit Hall Closes



SPECIAL SESSION: Monday, March 17 Best of Near Surface 2013 - Bochum

Four papers from the 18th European Meeting of the Near Surface Division of the EAGE held in Bochum, Germany are being presented at SAGEEP 2014 as part of an exchange, instituted several years ago between EEGS and NSGD/EAGE to strengthen the bond between the two organizations and promote the sharing of innovative applications of environmental and engineering geophysics across the Atlantic. Four "Best Papers," selected from the 2013 SAGEEP Symposium in Denver, Colorado, were presented at the September, 2013 NSGD Conference in Bochum. Four papers from SAGEEP 2014 in Boston will be presented at the NSGD Meeting in Athens, Greece in September. Plan to attend the presentations from Bochum and welcome the authors to Boston:

The Salinity Dependence of Spectral Induced Polarization Studied with an Extended Model of Membrane Polarization, Andreas Hördt, TU Braunschweig; Matthias Bücker, University of Bonn

Quick-clay Landslides in Sweden: Insights from Shear-wave Reflection Seismics and Geotechnical Integration, Charlotte Krawczyk, Leibniz Institute for Applied Geophysics

Global Joint Inversion of Tomographic Data: Appraisal of Model Reconstruction Ambiguity, Hendrik Paasche, Helmholtz-Centre for Environmental Research-UFZ; Jens Tronicke, University of Potsdam

Surface NMR in Urban Areas-A No Go?, Mike Müller-Petke, Leibniz Institute for Applied Geophysics

POSTER PRESENTATION FORMAT 2014

Posters form a significant and important part of the Technical Program for SAGEEP 2014, and we are excited to provide a poster presentation format designed to give posters maximum visibility and impact! Please note that all presentations will be included in the SAGEEP Best Paper Evaluation process.

Posters will be divided into two sessions: Tuesday and Wednesday. Each poster will be identified with a poster board position and title on the list in the poster viewing area.

Posters will be available from 8:00 am on the morning on the day of the poster session, and left up through 6:00 pm that day. Presenters will be available at their posters during the coffee breaks. A form will be provided that specifies other times of the day when presenters will be available at their posters.

In addition, poster presenters will be giving 3-minute oral summaries between 7:40 and 8:20 am both mornings in Simmons (technical session room). Consult the Technical Program for the listings of the poster titles.

GOVERNMENT SPONSORS & SUPPORTERS 2014

EEGS is grateful to the following government agencies that have agreed to sponsor or support SAGEEP 2014, and the individuals within these organizations (cited below) who helped to secure the commitment. Their financial support ensures that SAGEEP will continue to maintain a high standard of quality and ultimately makes EEGS a stronger organization.

ARMY RESEARCH OFFICE

The primary mission of the ARL Army Research Office is to serve as the Army's premier extramural basic research agency, funding basic research at universities in the engineering, physical, information and life sciences; developing and exploiting innovative advances to ensure the Nation's technological superiority.

Contact: Dr. David M. Stepp

Email: david.m.stepp.civ@mail.mil

Website: www.arl.army.mil

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The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. Reclamation's Technical Service Center (TSC) provides scientific, research, and engineering services related to water resource management and development.

Contact: Mr. Rich Markiewicz

Email: rmarkiewicz@usbr.gov

Website: www.usbr.gov/pmts/tech_services

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We thank the following companies for their support through sponsorship of functions and commemorative items.

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CGG	Sunday Ice Breaker Monday Coffee Break Conference Evening Dinner Cocktails
EEGS Foundation	Student Event
Falmouth Scientific, Inc.	Half Day Coffee Break
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Scintrex	Delegate Bag Sponsor
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Doug Crice
www.geostuff.com

Interpex Limited
Charles Stoyer
www.interpex.com

Mount Sopris Instrument Company, Inc.
James LoCoco
www.mountsopris.com

Northwest Geophysics, LLC
Matthew Benson
www.northwestgeophysics.com

PetRos EiKon, Inc.
Ross Groom
www.petroseikon.com

R.T. Clark Companies, Inc.
Chris Miller
www.rtclark.com

Sensors & Software, Inc.
Steve Cosway
www.sensoft.ca

Spotlight Geophysical Services
Ronald Kaufmann
www.spotlightgeo.com

Vista Clara, Inc.
David Walsh
www.vista-clara.com

Zonge International, Inc.
Norman Carlson
www.zonge.com

COLLABORATING AND COOPERATING SOCIETIES

EEGS values its relationships with other professsional societies that share an interest in geophysics and its environmental and engineering applications. Depending on the agreement, collaborations might include publication arrangements, member discounts, sharing newsletter items, promoting conferences, and co-sponsoring events. During the past year, EEGS has had significant interaction with the following societies:

Association of Environmental and Engineering Geologists

Australian Society of Exploration Geophysicists

EAGE European Association of Geoscientists & Engineers

national ground water association

Society of Exploration Geophysicists

Near Surface Geophysics Section of the SEG

American Association of Petroleum Geologists

AEG India

Geo-Institute of the American Society of Civil Engineers

The Geological Society of America

SEG Japan

EXHIBITORS EQUIPMENT OUTDOOR DEMONSTRATIONS

Monday, March 17 | 4:00-6:00 pm

Monday afternoon, the Exhibitors Equipment Outdoor Demonstrations will be conducted in front of the historic Trinity Church, located in Copley Square. Wear comfortable shoes as the location is within walking distance of the hotel (signage will direct). The event is free to conference attendees (badge required). Return to the Exhibition Hall after the demonstrations for hot chocolate!

Advanced Geosciences, Inc.

Advanced Geosciences Field demonstration of SuperSting with Wi-Fi® resistivity/IP/SP system with Android App. Advanced Geosciences is the manufacturer of the SuperSting with Wi-Fi® resistivity/IP/SP system. AGI will demonstrate the Android App remote instrument control through WiFi, data transfer, electrode array programing, data email, real time data display with zoom and data inspection and numerous other utilities.

GSSI, Inc.

GSSI will demonstrate our very popular UtilityScan DF (Dual-Frequency). The UtilityScan DF features a 300 and 800 MHz digital antenna, ideal for near surface geophysics. The customized ToughPad G1 monitor displays our 32-bit dual-frequency data simultaneously in split mode or our revolutionary BLEND mode.

IDS North America, Ltd.

RIS MF Hi-Mod is a robust high performance multi-use ground penetrating radar system capable of scanning large areas in a short period of time and providing an accurate 3D view of the subsoil with a high resolution and depth of penetration. RIS MF Hi-Mod provides a complete end-to-end solution from the initial data acquisition in the field to final output production in the form of CAD or GIS maps. RIS MF Hi-Mod's software includes automated tools which reduce the time taken to produce meaningful and unambiguous results.

MALÅ Geoscience USA, Inc.

HDR performance is superior to any conventional GPR technology in the field and is available at a range of frequencies for any GPR investigation and boasts superior depth penetration and bandwidth that mimics a dual frequency antenna. GPR systems like the HDR can accurately locate and determine depths to utilities of many types including pipes, cables, conduit, and duct banks in soils favorable to the GPR method. GPR in many cases is the only practical non-destructive method available to locate non-metallic or non-conductive utilities such as cast iron, PVC or other plastic pipes, concrete, and various composite pipelines. Utilizing electromagnetic radar waves and reflection technology, the HDR systems are non-destructive and safe for users and the environment. All systems are FCC approved.

ICE BREAKER

Sunday, March 16 5:30 – 7:30 pm | Exhibit Hall (Back Bay Exhibition and Conference Center)

Begin your SAGEEP 2014 experience at the Ice Breaker featuring refreshments and music entertainment.

Everyone's welcome at the opening SAGEEP event.

CAPE ANN FIELD TRIP

SUNDAY, MARCH 16 | 8:30 am

If you're visiting the Boston area, this is a tailor-made excursion for those who would like to get a taste of the Boston and surrounding area flavor. The ¾ day outing, beginning at 8:30 a.m. will return in plenty of time to attend the Ice Breaker, SAGEEP's opening event. The day begins with a drive up Boston's North Shore to Rockport, and includes a visit to the granite quarry at Halibut Point State Park. Lunch is on your own at the Cape Ann Brewing Company by the harbor in Gloucester with a tour of the brewery conducted by the brewmaster! On the return trip, you'll stop at the Ryan and Wood Distillery. Meet at the registration area for departure.

EEGS FOUNDATION SILENT AUCTION

Adjacent to Registration

Once again, the EEGS Foundation will hold a SILENT AUCTION at SAGEEP. Participate in the auction by bidding on the items on display throughout the conference. Winners will be announced in the Exhibit Hall on Wednesday morning at the mid-morning break. Of course, the EEGS Foundation will gladly accept financial donations throughout the year and welcomes contributions made during SAGEEP.

The EEGS Foundation was created to support the efforts of EEGS through its outreach programs. Contributors can designate contributions to support the Founders Fund, established to support costs associated with the establishment and maintenance of the EEGS Foundation; the Student Support Endowment, used to support travel and reduced membership fees to attract greater involvement from our student members; or the Corporate Founder's Fund, developed to allow our corporate members to support the establishment of the Foundation as we solicit support from new contributors.

STUDENT EVENT

Kings Boston

MONDAY, MARCH 17 | 6:00 pm

The Student Event is open to all registrants and guests. Begin by meeting at 6:00 p.m. at the SAGEEP 2014 registration area. Participants will walk, via the indoor walkway, through the Copley Bridge/Prudential Center to Kings, just outside the shopping complex exit. At Kings Boston there will be pizza, hot hors d'oeuvre selections (beverages on own at bar) and bowling (shoe rental included) for all. Self-described as "upscale, retro-inspired décor and executive-chef designed menus," Kings offers 24,000 sq. feet of bowling, three bars, billiards, skee ball and a shuffleboard table (regulation!). SAGEEP conference badges required and students must wear their student ribbons. No charge for students.

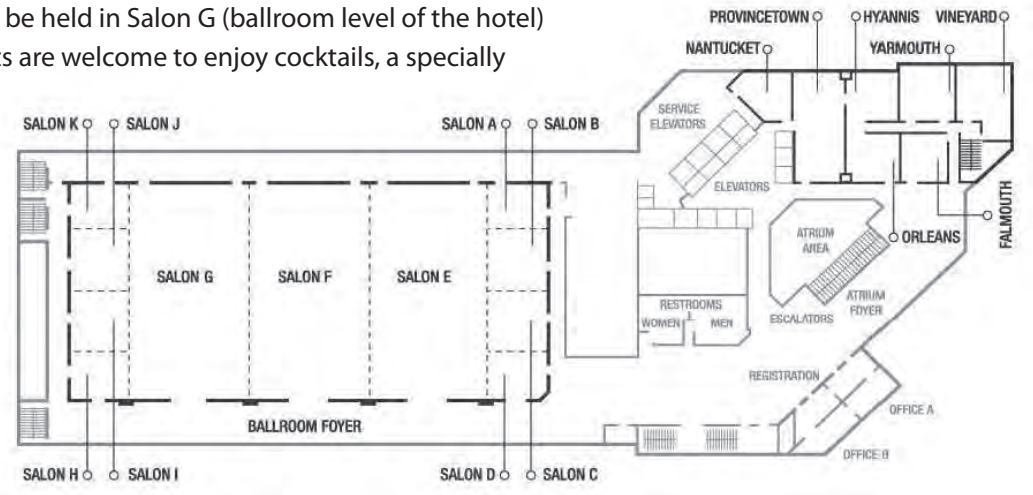
Thanks to our Event Sponsors: Geometrics, Inc., EEGS Foundation.

CONFERENCE EVENING DINNER EVENT

Tuesday, March 18 | 6:30 – 11:00 pm

The Conference Evening dinner will be held in Salon G (ballroom level of the hotel) where SAGEEP attendees and guests are welcome to enjoy cocktails, a specially prepared dinner and wine.

This is THE event where you will enjoy a congenial atmosphere, catch up with friends, make new ones and network with fellow SAGEEP attendees. If you haven't already, be sure to purchase your evening event ticket - space is limited.



SAGEEP 2014 KEYNOTE SPEAKER

ALFRED WILLIAM EUSTES III

Monday, March 17, 2014 | Salon E

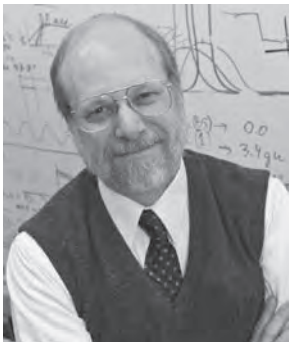
Extraterrestrial Drilling: How on Earth Can Martian Drilling Help Us?

"Are we alone in the Universe? To find that answer will require the use of technology and techniques we use for subsurface exploration. There is one place accessible to mankind that has the strongest possibility to answer that question: Mars. The various Mars missions to date have indicated that there are no organic materials on the surface of the planet; however, as on Earth, there could be a large biomass under the surface. The tools and techniques developed for Earth subsurface exploration and drilling are the basis for this extraterrestrial subsurface access technology. And what we learn building and deploying this technology will help us understand how to better explore and drill here on Earth."

There will also be some discussion about the INSIGHT (Interior exploration using Seismic Investigations, Geodesy and Heat Transport) mission, a NASA Discovery Program mission scheduled for 2016 that will place a single geophysical lander on Mars to study its deep interior.

Alfred Eustes, a Colorado School of Mines petroleum engineering professor, has thirty-five years of oilfield experience including nine years with ARCO. He has BS and MS degrees in mechanical engineering and a Petroleum Engineering doctorate from the Colorado School of Mines. He has advised the NSF with Antarctica ice coring and NASA regarding extraterrestrial drilling and is working with industry on unconventional resources and NREL on geothermal drilling.

SAGEEP LUNCHEON



JOHN EBEL, BOSTON COLLEGE

Tuesday, March 18, 2014 | Salon F

From Earthquake Sources to Site Response: The Seismic Hazard of Boston

Boston has been affected by several notable earthquakes during historic times, and modern analyses suggest that it lies in an area of moderate seismic hazard. The large areas of soft surface soils and landfill in Boston and vicinity compound the seismic hazard because these areas may be prone to ground shaking amplification and even ground liquefaction in strong earthquake shaking. Professor Ebel's talk will summarize the artificial filling and earthquake history of Boston and vicinity, discuss the soil amplification and liquefaction potential in the area, and assess what damage might occur in Boston if a strong earthquake takes place somewhere near the city.

Dr. John E. Ebel is a Professor of Geophysics at Boston College and is a Senior Research Scientist at the Weston Observatory of Boston College. For over 30 years he has monitored earthquakes and studied the earthquake activity of northeastern North America, and in particular in New England. His research expertise includes earthquake sources, seismic wave propagation, seismic hazard analysis, and probabilistic earthquake forecasting, and he has published over 60 technical papers and one book.

EEGS ANNUAL MEETING/LUNCHEON

STEVEN ARCONE

Wednesday, March 19, 2014 | Salon F

GPR Profiles of GYTTJA, Glaciofluvial Sedimentation and Till

Mirror Lake in Woodstock, New Hampshire, lies within the Hubbard Brook Experimental Forest, a long-term ecologic and hydrologic research (LTER) site since 1950. The accumulation of lacustrine sediments has been of interest because they were expected to indicate rates of erosion and vegetative evolution since glacial recession, and the disposition of subottom till and bedrock because of their potential to act as subbottom hydraulic pathways. The extremely low conductivity of the lake water and sediments made GPR an effective investigation method. The GPR profiles delineate saturated organic-rich mud, glaciofluvial sediments, till, and mainly near-shore bedrock. Structurally, the lake sedimentation is divided by a large glaciofluvial delta extending half way across the lake and originating from the present stream on the west side. In contrast to earlier studies that assumed bedrock fractures as the main hydraulic pathways beneath the lake, Dr. Arcone interprets up to at least 26 m of till beneath as much as 6 m of glaciofluvial outwash. Profiles recorded in January of 2013 using higher power and lower frequency antennas failed to obtain deeper bedrock returns, but improved delineation of the delta extent.

Steve Arcone obtained his undergraduate degree from Cornell and his graduate degrees from Cornell (MEE) and Dartmouth, (PhD, 1977). His programs focus on radiowave scattering and dispersion, surface wave propagation in rough terrain, glacial and periglacial stratigraphy, and the dielectric properties of sediments. His field research has been mainly in Alaska, Antarctica, and New Hampshire, with support from NSF, NASA, SERDP and the Army 6.1 program.

Non-students are encouraged to make contributions to offset the cost of the luncheon. Students are invited to attend at no charge.

JANET E. SIMMS, PhD

This year's deserving winner of the EEGS Gold Medal Contribution Award is Dr. Janet Simms, a Research Geophysicist with the U.S. Army Engineer Research and Development Center (ERDC) in Vicksburg, Mississippi. Dr. Simms earned her BS from Michigan Technological University, and her PhD from Texas A&M, both in Applied Geophysics. Her primary research efforts have involved the application of geophysics to unexploded ordnance (UXO) problems. These efforts include background characterization of UXO test sites on Aberdeen Proving Ground in Maryland and Yuma Proving Ground in Arizona, developing software to assist UXO site managers with selection of appropriate characterization tools for cleanup efforts, developing software to estimate projectile penetration depth for use in UXO remediation efforts, identifying in near real time the location of UXO on active training ranges using seismic/acoustic sensors, and measuring the geophysical response of non-metallic materials for future munitions. She is currently involved with the development of a prototype sensor for the detection of intermediate electrically conductive materials. She has also been involved in studying the effects of woody vegetation on levees, and the detection of tree roots that can compromise levee integrity. She also enjoys the archeological applications of geophysics, such as work on the U.S.S. Kentucky.

Janet has served ERDC with distinction, evidenced by numerous ERDC awards including Commander's Award for Civilian Service, several Outstanding Team Effort awards, ERDC Achievement Award, and an ERDC Herbert Vogel Award. Her work is published in over 50 technical reports, conference proceedings, and journal articles, including a SAGEEP 2009 "Top 10 Paper," resulting in an invitation to present at the 2009 EAGE Near Surface Conference.

Dr. Simms has supported EEGS and the SAGEEP conference for many years, and has served in a number of key roles within EEGS over that time. She served as the SAGEEP Technical Chair in 2005 for the successful Atlanta symposium, and Vice President of SAGEEP in 2007. She is currently Editor-in-Chief of the EEGS publication *Journal of Environmental and Engineering Geophysics*, a position she has held since 2007. Janet has also served as an officer for the Near Surface Section of SEG between 1996 and 2000, serving as Treasurer, President-elect, and President, and as a member of the Technical Session Committee of SEG in the same timeframe. She is currently Treasurer of the SWE Mississippi River City Section.

The Gold Medal Contribution Award was established to recognize an individual who is deserving of special recognition due to exceptional contributions made to the engineering and environmental geophysics community and to EEGS. Such contributions include development of educational tools or curriculums, innovation in outreach efforts, or creating communication methods and opportunities with other professional disciplines that comprise potential geophysical end-users.

Short courses & workshops include full course notes, continental breakfast, morning & afternoon refreshments & lunch.

CANCELLED SC-1: Google Earth Applications in Education and Research

Date: Sunday, March 16, 2014
Time: 8:00 am – 5:00 pm | Room: Suffolk
Instructor: Steven Whitmeyer, James Madison Univ

Google Earth is used by many geoscientists as a "geo-browser" to study Earth features as revealed by the Google Earth terrain model and imagery. Layers that come with Google Earth highlight features of special interest, but dedicated geoscience content is usually created by a small number of geoscientists who know how to program in KML, the language of virtual globes. This workshop will focus on methods that we have developed to help geoscientists create original content for Google Earth using familiar software such as web browsers, word processors, and image file collections. Case studies will include: (1) Creating digital geologic maps with 3-D symbols, emergent cross sections, etc.; (2) Field data collection with iPads, etc. and integrating field datasets into Google Earth; (3) Optimizing digital geologic map and information for use in the field; and (4) animating surface processes and tectonic motions. Participants will need to bring their own laptops with Google Earth and ActivePerl installed (Mac users already have Perl). If available, participants are also encouraged to bring iPads with the Google Earth and GeoFieldBook apps installed.

SC-2: Environmental Applications of the Induced Polarization Method

Date: Sunday, March 16, 2014
Time: 8:30 am – 4:30 pm | Room: Wellesley
Instructor: Lee Slater and Dimitrios Ntarlagiannis, Rutgers-Newark, NJ

Historically developed as a mineral prospecting method, the induced polarization (IP) geophysical technique has seen a resurgence of interest over the last two decades for environmental and engineering characterization/monitoring. This resurgence has primarily been driven by the recognition of the unique sensitivity of the IP method to pore-surface properties and processes, and the resulting implications for estimation of permeability and monitoring of geochemical or biogeochemical processes. This one-day short course focuses on the developments in this extension of the DC resistivity method in response to the unique opportunities that exist to improve understanding of near surface (upper 100 m) properties and processes beyond that which can be achieved using resistivity measurements alone. The short course will cover: [1] recent theoretical developments and petrophysical relations; [2] practical advice on how to acquire and process meaningful IP data both in the laboratory and the field; [3] IP data processing and inversion strategies; [4] recent case studies in hydrogeophysics and biogeophysics. Recent advances with the spectral induced polarization (SIP) method, whereby IP measurements are made over a wide range of frequencies to provide further information on the physicochemical properties of the subsurface, will also be described.

SC-3: Overview of Utility Locating Technologies

Date: Thursday, March 20, 2014
Time: 8:00 am – 5:00 pm | Room: Suffolk
Instructor: Ralf Birken, Northeastern University

Accurate locating and mapping of subsurface utilities is very important for utility owners, highway managers and engineers, designers, and contractors. The lack of reliable 3D location information can have significant safety and economic consequences. This short course provides an overview of existing utility locating technologies and methodologies. The focus is on the complementary geophysical methods of electromagnetic induction (EMI) and Ground Penetrating Radar (GPR). The following topics will be explored from a mainly practical point of view: Comparison of geophysical EM methods, fundamentals of EMI and GPR, single-channel versus array systems, survey strategies, importance of accurate positioning information, Dig Safe and similar services, Subsurface Utility Engineering (SUE), cost-benefit analysis, and case histories. Many 3D GPR case histories will be presented for small and large scale locating projects. A special section will explore the locating of deep conductive utilities.

SC-4: Multichannel Analysis of Surface Waves (MASW) - Fundamentals Plus

Date: Thursday March 20, 2014
Time: 8:00 am – 5:00 pm | Room: Wellesley
Instructors: Choon Park, Park Seismic LLC, and Mario Carnevale, Hager GeoScience, Inc.

For about a decade, MASW has become a significant tool for geotechnical site characterization, in which the measurement of shear-wave velocity (Vs) plays an important role. During this period, training for and application of the MASW method, particularly in the U.S., has been software-driven. In this course, we will enhance understanding of the MASW method by approaching the fundamental and advanced instructional topics from a conceptual standpoint, i.e., one not driven by software instructions. The Vs of ground materials is the most valuable among the parameters used in calculating shear and Young's (E) moduli used in foundation design. The MASW method offers a cost-effective surface geophysical means of obtaining the Vs of ground materials that has traditionally been challenging because of the inherent difficulties in generating and recording shear waves with high signal-to-noise ratio (S/N) in borehole surveys. The MASW method calculates Vs from surface waves, a dominant and easily recorded waveform in all seismic surveys. The multichannel recording and processing approach adopted in the MASW method provides flexibility and robustness in data analysis, further enhancing accuracy of the results. The first part of this course will cover the fundamentals of surface wave data acquisition, analysis, and processing that will allow participants to perform an MASW survey on their own. We will show how MASW offers simple and easily applied procedures that can be used by most geo-professionals after minimal training. Despite the overall simplicity and high success rate of the MASW method, a MASW survey can sometimes produce results that fall below expectations. Although there may be several reasons for this, the cause may simply be due to non-optimal field acquisition geometry, improperly chosen data-processing parameters, or misapplication of the method without acknowledging its limitations. Avoiding these problems will increase the confidence level of MASW survey results for practitioners and clients alike. The objective of the second part of this course is to fully understand the inter-relationship between critical parameters in data acquisition and processing that influence the outcome of MASW surveys. With this information, practitioners will gain more confidence in field operation and data processing, and improve their ability to accurately anticipate the outcome of a planned MASW survey. With successful MASW survey experiences, they will be able to face challenging situations more successfully.

This course will present several actual case histories that illustrate successful, fair, and below-average MASW survey outcomes; i.e. The Good The Bad and The Ugly. The critical aspects responsible for each outcome will be examined and discussed. Hands-on data collection will also be perfomed.

	SIMMONS	WELLESLEY	ARLINGTON	SUFFOLK
	EAGE/NSGD: Best of 2013 Chair: Micki Allen			
10:40 – 11:00 am	**The Salinity Dependence of Spectral Induced Polarization Studied with an Extended Model of Membrane Polarization** Andreas Hördt, TU Braunschweig; Matthias Bücker, University of Bonn			
11:00 – 11:20 am	**Quick-clay Landslides in Sweden: Insights from Shear-wave Reflection Seismics and Geotechnical Integration** Charlotte Krawczyk, Leibniz Institute for Applied Geophysics			
11:20 – 11:40 am	**Global Joint Inversion of Tomographic Data: Appraisal of Model Reconstruction Ambiguity** Hendrik Paasche, Helmholtz -Centre for Environmental Research-UFZ; Jens Tronicke, University of Potsdam			
11:40 – 12:00 pm	**Surface NMR in Urban Areas-A No Go?** Mike Müller-Petke, Institute for Applied Geophysics			
	Ground Penetrating Radar Chair: Brian Jones Co-Chair: Doria Kutrubes	**Gravity** Chair: Jack Kick	**Geophysics in Landfill Analysis** Chair: Paras Pujari	**General and Unconventional Geophysics** Chair: Ted Asch
1:40 – 2:00 pm	**Noise Attenuation from 3-D GPR Data Using Artificial Neural Network** Sid-Aali Ouadfeul, Algerian Petroleum Institute,IAP; Leila Aliouane, Labophyt, FHC, UMBB	**Method for Isolation of Gravity Signatures Due to Major Earthquakes from Satellite Gravity Data** Rambhatla G. Sastry, Aurj Pant, Indian Institute of Technology Roorkee	**Geophysical Characterization of Ground-Water Flow and Salt Transport in an Oil-Sand Tailings Pond Dam, Alberta, Canada** Aaron Booterbaugh, University of Calgary; Laurence Bentley, Carl Mendoza, University of Alberta	**Using Fibre-Optic Distributed Temperature Sensing (DTS) for Monitoring Sedimentation and Erosion** Marco de kleine, Ane Wiersma, Pieter Doornenbal, Deltares
2:00 – 2:20 pm	**Improving 3-D GPR Imaging and Lateral Resolution by Inversion with Sparsity Constraints** Paolo Mazzucchelli, Aresys	**Study of Terrain Corrections with Respect to Digital Elevation Models and Their Effects on Gravity Anomaly Signature Characteristics** Ruizhong Jia, Ross Groom, Petros Eikon Inc.	**Monitoring of Thermal Induced Deformations of a Landfill Geomembrane Using Ground-based Interferometric Radar** Brent Rosenblad, Francisco Gomez, J.E. Loehr, University of Missouri; Wyatt Jenkins, Burns and McDonnell	**Results of a Laboratory Study Highlighting the Potential of Integrated P-Wave and Electrical Methods Application in Near-Surface** Bilal Hassan, Stephen Butt, Charles Hurich, Memorial University
2:20 – 2:40 pm	**Dynamic Time Warping of Time-Lapse GPR Data to Monitor Infiltration at the Shale Hills Critical Zone Observatory** Jonathan Nyquist, Laura Toran, Lacey Pitman, Temple University; Henry Lin, Penn State University	**Potential Field Inversion on Nodes for Stochastic Inversion Models** Denis Marcotte, Pejman Shamsipour, Michel Chouteau, Ecole Polytechnique de Montreal	**Ground-Based Interferometric Radar Measurements of Ground Deformation in a Closed Landfill: An Example near Granby, Colorado** Francisco Gomez, Brent Rosenblad, J.E. Loehr, Bjorn Held, University of Missouri; Benjamin Lowry, CGG NPA Satellite Mapping	**Efficient Underwater Site Characterization Using a Layered and Integrated Technology Approach** John Foley, Derek Jennings, Martin Miele, HDR Inc.
2:40– 3:00 pm	**Efficient Processing of Long GPR Profiles, with Application to Muskeg Thickness and Bedrock Depth Mapping** Alastair McClymont, Landon Woods, Douglas Maclean, WorleyParsons	**3-D Stochastic Gravity Inversion on Unstructured Meshes** Pejman Shamsipour, Michel Chouteau, Denis Marcotte, Ecole Polytechnique de Montreal; Ernst Schetselaar, Natural Resources, Canada	**Electrical Leak Testing of Geomembrane-Lined Basins** Peter Hutchinson, Maggie Beird, Bryan Teschke, THG Geophysics	**Geophysical Characterization of Pagan Island, Commonwealth of the Northern Marianas Islands (CNMI)** Ted Asch, Jared Abraham, XRI Geophysics LLC; Shellie Rose, Remote Sensing & Flourescence Lab ERDC-Alexandria, VA
3:00– 3:20 pm			**Assessment of Groundwater Pollution near an Ash Disposal Site near a Coastal Aquifer in India-Synthesis of Geoelectrical and Hydrochemical Studies**, Paras Pujari, CSIR-NEERI, C Padmakar, Ramya Sanam, Pawan Labhasetwar, NEERI	

EEGS FOUNDATION

Is there a better time to support the earth sciences?

Recent events have illustrated the importance of the type of work performed by our membership. Clean water, sustainable agriculture, seismic risk assessment, utility location, non-destructive testing are all timely, pertinent, world-wide issues.

The EEGS Foundation

Was formed to further the goals of EEGS and is committed to financially supporting all kinds of efforts: conferences and workshops; individual travel grants and scholarships; information dissemination; and research/publication activities.

At this SAGEEP meeting

Stop by the EEGS Foundation Silent Auction table near the SAGEEP Registration area and participate in the auction by bidding on the items on display. Winners will be announced in the Exhibit Hall on Wednesday morning at the mid-morning break.

We encourage you

To make a tax-deductible donation to the EEGS Foundation. This may be done by contacting anyone on the EEGS staff or one of the Foundation Board members listed below.

EEGS Foundation Board Members

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Mel Best – Advisory Board	best@islandnet.com

	SIMMONS	WELLESLEY	ARLINGTON	SUFFOLK
	Airborne Geophysics & Remote Sensing Chair: John Foley	**Electromagnetics** Chair: Alex Buller	**Borehole Geophysics** Chair: James LoCoco Co-Chair: Daryl Tweeton	**Infrastructure** Chair: Joseph Coe
8:20 – 8:40 am	**Quantitative Depth to Bedrock Extraction from AEM Data** Helgard Anschuetz, NGI; Andi Pfaffhuber, Norwegian Geotechnical Institute; Craig Christensen, Queens University	**Urban Soil Exploration Using Electromagnetic Induction and Ground Penetrating Radar** Ellen Van De Vijver, Marc Van Meirvenne, Piet Seuntjens, Ghent University	**Advanced Downhole Microseismic Imaging Methods for Monitoring Hydraulic Fracturing of Shale Gas Reservoirs** Haijiang Zhang, Wantai-MST Microseismic Lab, Yukuan Chen, University of Science and Technology of China	**Safety Evaluation of Dams Using Integrated Geophysical Method: A Case Study in Washington State** Koichi Hayashi, Geometrics; Recep Cakir, Timothy Walsh, WA State Dept of Natural Resources; Jerald LaVassar, WA State Dept of Ecology
8:40 – 9:00 am	**Methods Used for Locating Legacy Wells in Developing Shale Gas Regions of Western Pennsylvania** Garret Veloski, James Sams, Richard Hammack, Rodney Diehl, US Department of Energy	**Paleo-Ice Flow Direction Determined From Electromagnetic Resistivity Anisotropy** Adrian Hickin, British Columbia Geological Survey; Melvyn Best, Bemex Consulting International	**Nuclear Magnetic Resonance Logging–Lessons Learned at the Massachusetts Military Reservation, Cape Cod, Massachusetts** Carole Johnson, Jason Sorenson, Denis R. LeBlanc, John Lane, US Geological Survey	**Enhancement of SRT and ERT Interpretations Using Time-Lapse Measurements and Cross-Plot Analysis** Leti Wodajo, Chung Song, Univ of Mississippi; Craig Hickey, Nat'l Center for Physical Acoustics; Gregory Hanson, USDA-ARS, Hydraulic Engineering Research Unit (HERU), retired
9:00 – 9:20 am	**Quantifying Monthly to Decadal Subsidence Rates and Magnitudes near the Wink Sinkholes, West Texas, Using Airborne Lidar and Radar Interferometry** Jeffrey Paine, John Andrews, Univ of Texas at Austin; Kutalmis Saylam, Aaron Averett, Tiffany Caudle, Edward Collins, Bureau of Economic Geology; Dochul Yang, Korea Aerospace Research Institute	**Removing Standing Water From SNMR Datasets: an Example from an Infiltration Experiment at the South Aura Valley Storage and Recovery Project, Tucson, AZ** Samuel Falzone, Kristina Keating, Rutgers-Newark; Elliot Grunewald, Dave Walsh, Vista-Clara, Inc.	**The Application of Monte Carlo Simulation to Borehole Gamma-Gamma Density and Spectral Gamma Calibrations** John Stowell, Lia Martinez, Mount Sopris Instrument Company	**Geophysics as a Tool for Pipeline Design in Challenging Terrain** Landon Woods, WorleyParsons Canada
9:20 – 9:40 am	**AEM Mapping of Groundwater Resources within the Glacial Deposits and Cretaceous Dakota Formation of Eastern Nebraska** Jared Abraham, XRI Geophysics LLC; Clint Carney, James Cannia, Exploration Resources International	**Use of Time-Domain Electromagnetics and Passive Seismic Methods to Characterize the Subsurface in East Falmouth, Massachusetts** Carole Johnson, Eric White, Denis R. LeBlanc, Sarah L. Morton, John Lane, US Geological Survey	**Observations from Borehole Dilution Logging Experiments in Fractured Crystalline Rock Under Variable Hydraulic Conditions** Philip Harte, Alton Anderson, John Williams, US Geological Survey	**Application of Electrical Resistivity Imaging to Evaluate the Geometry of Unknown Bridge Foundations** Behnoud Kermani, Pennsylvania State Univ; Joseph Coe, Jonathan Nyquist, Lorraine Sybrandy, Temple Univ; Peter Berg, Sarah McInnes, Pennsylvania Dept of Transportation
9:40 – 10:00 am	**Defining Brine-Plume Geometry through Airborne Electromagnetics, MCMC Inversion, and Resistivity Threshold Probability Mapping** Lyndsay Ball, Paul Bedrosian, Burke Minsley, Bruce Smith, Kenneth Watts, US Geological Survey	**Validating NMR Derived Effective and Total Porosities for Groundwater-Resource Evaluation in Near-Surface (<100 m) Sediments** Kok Piang Tan; Ken Lawrie, Ross. S. Brodie, Geoscience Australia; Jared Abraham, XRI Geophysics	**Interpretation of Seismic Tomography Results Using Data Quality and Residual Error Maps** Sonja Mackens, Thomas Fechner, Wendy Albers, Lutz Karl, Geotomographie GmbH; Daryl Tweeton, GeoTom	**Sub-slab Characterization of Gavins Point Spillway with Ground Penetrating Radar Mapping** Gregory Byer, ARCADIS US; Richard Grabowski, USACE, Geotechnical Engineering and Sciences Branch Military Munitions Remediation Section
10:40 – 11:00 am	**Mapping Groundwater Recharge Zones & Lithology within a Mountainous Headwater Catchment Area of the Snowy Range Near Laramie, WY with Airborne Electromagnetic and Magnetic Data** Bradley Carr, Ryan Armstrong, W. Steven Holbrook, Univ of Wyoming; Jesper Pedersen, Esben Auken, Hyrogeophysics Gr. - Aarhus Univ	**Investigations of Different Survey Techniques for Detecting Water-Bearing Structures with TEM** Ruizhong Jia, Ross Groom, Petros Eikon Inc.; Wei Yang, 203 Research Institute of CNNC	**Borehole Surveys for Determining Depth of Sheet Piles: Non-Optimal Geometry** Mario Carnevale, Hager GeoScience, Inc.	**An Investigation of Lake Okhissa Dam** Corey Hamil, Leti Wodajo, Chung Song, Chase Cromwell, Univ. of Mississippi; Craig Hickey, National Center for Physical Acoustics, Department of Geology and Geological Engineering
11:00 – 11:20 am	**Digital Aerial Characterization of Karst** Michael Byle, Thomas Loecherbach, Jared MacLachlan, Tetra Tech, Inc.	**ROV-Based Electromagnetic Sensing of Seafloor Targets** Gregory Schultz, Joe Keranen, White River Technologies	**A New Generation Borehole Acoustic Televiewer Logging Tool** James LoCoco, Mount Sopris Instrument Company	**Installation and Early Performance of a Seepage Surveillance System at the Mactaquac Dam, New Brunswick** Karl Butler, Andrew Ringeri, Kerry MacQuarrie, Neema Shija, Bruce Colpitts, Univ of New Brunswick; Bruce McLean, NB Power Generation
11:20 – 11:40 am	**High Dipole TDEM Systems** Kurt Sorensen, Institute of Geoscience	**Equipment of Radial-Frequency Sounding and Electromagnetic Profiling** Svyatoslav Khalatov, Novosibirsk State Univ; Evgeni Balkov, Institute of Petroleum-Gas Geology & Geophysics of the Siberian Branch of the Russian Academy of Sciences		

POSTER SESSION 1 – EXHIBIT HALL FOYER

Open 8:00 am – 6:00 pm Tuesday March 18, 2014

POSTER SUMMARIES 7:40 am – 8:20 am Simmons Room

1. **Including Measurements along Vertical Ray Paths in Cross-hole Radar Tomography**
   Celicia Boyden, Frederick Day-Lewis, John Lane, US Geological Survey
2. **2D Ground Penetrating Radar Data Filtering Using the Radial Basis Function**
   Leila Aliouane, LABOPHYT, FHC, UMBB; Sid-Ali Ouadfeul, Algerian Petroleum Institute, IAP; Amar Boudella, Geophysics, FSTGAT, USTHB
3. **LNAPL Migration Study Using GPR and EM-61, Southeastern Massachusetts Site**
   Doria Kutrubes, Amy Ziter, Radar Solutions International
4. **Mapping Phanerozoic Sediments and Deeper in Northeast Iowa Using Airborne Geophysics**
   Benjamin Bloss, Paul Bedrosian, Mason Kass, Benjamin Drenth, US Geological Survey; Robert McKay, Iowa DNR
5. **Results from an Airborne Magnetic Study for Locating Legacy Wells in Developing Shale Gas Regions of Southwestern Pennsylvania**
   James Sams, Garret Veloski, Richard Hammack, Rodney Diehl, US Department of Energy
6. **Application of Geophysical Tools for Environmental and Engineering-Related Problems**
   Aleksandra Varnavina, Aleksey Khamzin, Evgeniy Torgashov, Neil Anderson, Missouri S&T
7. **A Summary of Near-Surface Geophysical Surveys around Kitimat, British Columbia**
   Christian Sampaleanu, Golder Associates
8. **Electrical and Gravity Mapping of a Sinkhole in State College, PA**
   Peter Hutchinson, Heather Krivos, THG Geophysics
9. **Capacitive Resistivity- First Field Measurements on the Zugspitze (German/Austrian Alps)**
   Andreas Hördt, Anita Przyklenk, TU Braunschweig
10. **Too Thin to Be Detected: When ERT Surveys Can Fail to Assess an Aquiclude Layer Interposed between Two Aquifers: The Sunceri Test Site (Honduras)**
    Patrizio Torrese, Dipartimento di Scienze della Terra e dell'Ambiente, Università di Pavia; Mario Luigi Rainone, Patrizio Signanini, Ce.R.S.-GEO Università "G. d'Annunzio" Chieti-Pescara; Fabio Colantonio, Università di Chieti-Pescara
11. **3D ERT Imaging of the Fractured-karst Aquifer underlying the Experimental Site of Poitiers (France): Comparing Wenner, Schlumberger, Pole-Dipole and Hybrid Arrays**
    Patrizio Torrese, Dipartimento di Scienze della Terra e dell'Ambiente, Università di Pavia; Mario Luigi Rainone, Patrizio Signanini Ce.R.S.-GEO Università "G. d'Annunzio" Chieti-Pescara; Pasquale Greco, Fabio Colantonio, Università di Chieti-Pescara; Gilles Porel, Benoît Nauleau, Denis Paquet, CNRS IC2MP UMR Université de Poitiers; Jean-Luc Mari, Institut Français du Pétrole Energies Nouvelles (IFPEN)
12. **Non-destructive Evaluation of Bridge Decks Using Ground Penetrating Radar**
    Aleksandra Varnavina, Aleksey Khamzin, Evgeniy Torgashov, Brandon Goodwin, Lesley Sneed, Neil Anderson, Missouri S&T
13. **An Integrated Approach for Bedrock Characterization and Mapping Groundwater Preferential Pathways**
    Andri Dahlmeier, Christopher Buckman, AMEC Environment & Infrastructure
14. **In-situ Assessment of Bridge Decks and Pavements Using Ultrasonic Acoustic Methods**
    Mengxing Li, Evgeniy Torgashov, Neil Anderson, Stanley Nwokebuihe, Missouri S&T
15. **Seepage Investigations at Martis Creek Dam, Truckee, California**
    Bethany Burton, US Geological Survey
16. **Self Potential Monitoring of a Biogeobattery in a Hydrocarbon Contaminated Site**
    Jeffrey Heenan, Lee Slater, Dimitrios Ntarlagiannis, Rutgers University-Newark

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	Agricultural Geophysics Chair: Robert Freeland Co-Chair: Mehrez Elwaseif	**Electrical-RES, IP, Self Potential** Chair: Roelof Versteeg	**Water Resource/ Supply Investigations** Chair: Jonathan Nyquist	**Highway Geophysics** Chair: Phil Sirles
4:00–4:20 pm	**Imaging a Soil Fragipan Using a High Frequency Multi-Channel Analysis of Surface Wave Method** Zhiqu Lu, Craig Hickey, National Center for Physical Acoustics, University of Mississippi; Glenn Wilson, USDA-ARS Nat'l Sedimentation Labortory	**Enhanced Electrode Sequences for 2-D ERI: Forward Modeling and Field Results** Dylan Maxwell, Queens University; Rob Luzitano, Golder Associates	**Geostatistical Integration of Geophysical Measurements for Hydrogeological Investigations** Gabriel Fabien-Ouellet, Erwan Gloaguen, INRS ETE	**High-Frequency Surface Wave Measurement for the Pavement Structural Analysis** Tomio Inazaki, Kunio Aoike, Public Works Research Institute; Takaho Kita; Koichi Hayashi, Geometrics
4:20–4:40 pm	**Use of a Resistance Meter to Monitor Groundwater Impacts near Wastewater Holding Ponds-Multi-Year Summary** Roger Eigenberg, Bryan Woodbury, USDA-ARS	**Cross-Plot Analysis By Using Rock Physics-Based Thresholds for an Evaluation of Unsaturated Soil** Chisato Konishi, OYO Corporation	**An Optimized Workflow for Regional Aquifer Characterization in Monérégie, Québec, Canada** Erwan Gloaguen, Martin Blouin, INRS ETE	**Use of Geophysical Surveys to Assess Slope Failure and Pavement Distress along a Roadway in Missouri** Jeremy Strohmeyer, Benjamin Petersen, Douglas Lambert, Geotechnology
4:40–5:00 pm	**Advancement of Non-Invasive NMR Soil Moisture Scanners** Dave Walsh, Elliot Grunewald, Hong Zhang, Vista-Clara, Inc.	**Subsurface Characterization for Pipeline River Crossings Using Surface "Water-Coupled" ERT: Comparison with Other Geophysical Methods** Alex Buller, Hager GeoScience, Inc.	**Excitation Pulse Selection in Magnetic Resonance Sounding** Huangjian Wu, Li Zhenyu, China University of Geosciences	**Utility and Cost Effectiveness of Using a Combination of Geophysical Techniques to Solve Highway Related Problems** Adel Elkrry, Evgeniy Torgashov, Abdallah Dera, Mengxing Li, Aleksey Khamzin, Aleksandra Varnavina, Brandon Goodwin, Ronaldo Luna, Lesley Sneed, Neil Anderson, Missouri S&T
5:00 – 5:20 pm	**Quantifying Wood Moisture Content Using 3-D Ground Penetrating Radar and Electrical Resistivity Tomography** Mehrez Elwaseif, W. Steven Holbrook, Brent Ewers, Scott Peckham, James St. Clair, Jorden Hayes, Univ of Wyoming; Thomas Guenther, Leibniz Institute of Applied Geophysics	**Comparative Analysis of an Embankment Dam Between Low and High Pool Using Electrical Resistivity Imaging and Spontaneous Potential** Kevin Hon, S&ME, Inc.; Jeffrey Munsey, Tennessee Valley Authority		**Simulation Analysis for Under-Pavement Drainage Detection by Ground Penetrating Radar (GPR)** Hao Bai, Joe Sinfield, Purdue University
5:20 – 5:40 pm	**Imaging Trees Interior Using 3-D Electrical Resistivity Tomography** W. Steven Holbrook, Brent Ewers, Scott Peckham, Mehrez Elwaseif, University of Wyoming	**Yukon High Resolution Resistivity/ IP Mineral Exploration Case Study** Isaac Fage, GroundTruth Exploration Inc.; Melvyn Best, Bemex Consulting International		**Characterizing Hidden Full Depth Asphalt Patches Using High Speed, Multi-Channel Ground Penetrating Radar** Kevin Hon, Jason Cox, S&ME, Inc.
5:40 – 6:00 pm	**Agricultural Geophysical Implications at the Agricultural and Research Station of KFU, Al Hassa, KSA** Ahmed El Mahmoudi, Yousef Al-Molhem, Adel Hussein, King Faisal University			**Detailed Characterization of Pavement Surface Structure Using High Resolution GPR** Kunio Aoike, Tomio Inazaki, Public Works Research Institute; Hideki Saito, OYO

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	Airborne Geophysics & Remote Sensing Chair: John Foley	**Electrical-RES, IP, Self Potential** Chair: Roelof Versteeg	**Hydrogeophysics** Chair: Bradley Carr	**NDE&T for Bridges and Concrete Structures** Chair: Ralf Birken
11:40 – 12:00 pm	**Two-Dimensional Joint Inversion of ZTEM and MT Plane-Wave EM Data for Near Surface Applications** Jean Legault, Geotech Ltd.; Philip Wannamaker		**Tracer Technologies: Possibilities in the Reservoir Engineering**, Leonid Anisimov, LUKOIL-Engineering	**Comparing Experimental and Simulated GPR Amplitudes from Rebar in Healthy and Corroded Reinforced Concrete Bridge Decks** Nicole Martino, Roger Williams Univ; Ralf Birken, Northeastern Univ; Ken Maser, Infrasense, Inc.
1:40 – 2:00 pm	**The Importance of Single Transmitted Waveforms in the Characterization of Discrete Conductors** Jean Legault, Andrei Bagrianski, Alexander Prikhodko, Geotech, Ltd	**Monitoring of Joint Systems Time-Lapse Behavior via ERT** Jaroslav Jirku, Faculty of Science; Jaroslav Barta, G Impuls Praha	**Geophysical Flow Analysis of Anisotropy: A Case Study of Snapper Creek Municipal Well Field, Miami, FL** Albert Yeboah-Forson, Missouri Southern State Univ; Dean Whitman, Florida Int'l Univ	**Adaptive Approach for Utilization of Ground Penetrating Radar for Bridge Deck Investigations** Aleksey Khamzin, Aleksandra Varnavina, Evgeniy Torgashov, Brandon Goodwin, Lesley Sneed, Neil Anderson, Missouri S&T
2:00 – 2:20 pm	**Reflection of Winter Road Salinity in P-THEM Data** Anton Vetrov, Pico Envirotec, Inc.	**Geophysical Methods as an Aid to Planning, Monitoring, and Abandoning Tailings Facilities in the Alberta Oil Sands** Paul Bauman, Dan Parker, Laurie Pankratow, Kim Hume, WorleyParsons	**Time-Lapse DC Resistivity Studies of the Hyporheic Zone within Two High Mountain Streams of the Snowy Range, WY** Bradley Carr, Robert Hall, WyCEHG - Univ of Wyoming	**LDV-based MASW Method for Pavements/Concrete Slabs/Bridge Decks NDT: A Preliminary Study** Zhiqu Lu, National Center for Physical Acoustics, University of Mississippi
2:20 – 2:40 pm	**Unmanned Aerial Systems for Agricultural Geophysics** Robert Freeland, Univ of Tennessee; Barry Allred, USDA/ARS Soil Drainage Research Unit	**Geophysical Mapping of Brine Springs in the Montezuma Wetlands Complex, NY** Dea Musa, Laura Sherrod, Emily Snyder, Sebastien Treciak, Alex Spielman, Kutztown Univ; Andres Kozlowski, Brian Bird, New York State Museum;	**Calibrating Surface Hydrology, Self-Potential and Time-lapse DC Resistivity Analyses at an Artesian Spring Near Laramie, WY** Bradley Carr, Scott Miller, Eva Marquis; Kevin Hyde, WyCEHG - Univ of Wyoming	**Comparison of MASW and MSOR for Surface Wave Testing of Pavements** Shibin Lin, Jeramy Ashlock, Iowa State Univ
2:40 – 3:00 pm	**A Bayesian McMC Approach to Model Assessment, Uncertainty Analysis, and Lithological Prediction for Airborne Electromagnetic Surveys** Burke Minsley, Paul Bedrosian, V.J.S. Grauch, US Geological Survey	**One Little Step towards a Resistivity to Rock-Quality Transform** Sara Bazin, Andi Pfaffhuber, Guro Grøneng, Norwegian Geotechnical Institute; Craig Christense, Queens Univ	**Joint inversion of Multi-Configuration Electromagnetic Induction Measurements to Predict Soil Wetting Patterns during Surface Trickle Irrigation** Khan Z. Jadoon, Samir K. Al-Mashharawi, Thomas M. Missimer, King Abdullah Univ of Science & Technology; Davood Moghadas, Federal Institute for Geosciences & Natural Resources; Aurangzeb Jadoon, Department of Earth Sciences Quaid-I-Azam Univ	**Complementary Pavement Subsurface Assessment Using Mobile Acoustic Subsurface Sensing and Ground Penetrating Radar Systems** Yifeng Lu, Hao Liu, Ming L. Wang, Ralf Birken, Northeastern Univ
3:00 – 3:20 pm		**Combining Land and Waterborne Electrical Resistivity Tomography for Improved Infrastructure Planning On Waterways** Erin Ernst, WorleyParsons	**Resolving the Irresolvable through Data Integration for the Transmitter Site, Bucks Harbor, ME** Drew Clemens, Geo-Resolution, Inc.; Mike Thompson, MDT Assoc, Steve Miller, GeoSolutions, Inc.	**Identifying Internal Weaknesses in Concrete Piers with Tomographic Imaging** Paul Fisk, NDT Corporation
3:20 – 3:40 pm		**3-D Electrical Resistivity Tomography as an Aid for Construction Planning in Expansive Clay** Gerardo Cifuentes-Nava, Esteban Hernandez-Quintero, Rene Chavez-Segura, Universidad Nacional Autonoma de Mexico		**FHWA's Characterization of Bridge Foundations Workshop** Frank Jalinoos, Federal Highway Administration (FHWA)

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	Munitions Detection Systems and Software Chair: Dean Keiswetter	**Seismic Refraction/Reflection** Chair: Colin Zelt Co-Chair: Andre Pugin	**Advances in Electrical Resistivity Imaging** Chair: Judy Robinson	**Archaeological Geophysics** Chair: Matt Benson Co-Chair: Tate Meehan
8:20 – 8:40 am	**The Development of Underwater MEC/UXO Detection Arrays, Magnetic and Electromagnetic** Richard Funk, Tetra Tech	**Combining P-and SH-Wave Traveltime Tomography for Void Detection** MD Alam, Priyank Jaiswal, Oklahoma State Univ	**2.5-D Resistivity Inversion in Anisotropic Media: Numerical Experiments** Stewart Greenhalgh, ETH Zurich; Tomothy Wiese, Santos; Bing Zhou, Univ of Adelaide; Mark Greenhalgh, Thumping Geophysical; Laurent Marescot, Ris Mgmt Services	**Reconstructing the Prehistoric Landscape of Stonehenge (UK) through Multi-Receiver EMI Survey** Philippe De Smedt, Ellen Van De Vijver, Marc Van Meirvenne, Timothy Saey, Ghent Univ
8:40 – 9:00 am	**MEC Libraries – Why Are They Vital?** Tom Furuya, Dean Keiswetter, Leidos Holdings, Inc; Darren Mortimer, Geosoft, Inc.	**Continuous Data Processing for Comprehensive and Effective Reflection Seismic Survey** Erwan Gloaguen, Martin Blouin, INRS ETE	**Combining Geoelectrical and Advanced Lysimeter Methods to Characterize Heterogeneous Flow and Transport under Unsaturated Transient Conditions** Markus Wehrer, Lee Slater, Rutgers Univ-Newark; Andrew Binley, Lancaster Univ	**Geophysics as Preservation Archaeology: Mapping Architectural Variability in the Mogollon with Magnetic and Electromagnetic Landscape Surveys** Timothy de Smet, Texas A&M Univ; Thatcher Rogers, Univ of Wisconsin-La Crosse; William Sauck, Western Michigan Univ
9:00 – 9:20 am	**Advanced Information Management to Facilitate Geophysical Anomaly Classification at Munitions Sites** John Foley, Peter Hille, Martin Miele, HDR Inc.	**Multi-Component Vibro-Seismic Techniques for Assessing Gas Escape Features, Faults and Landslides** Andre Pugin, Susan Pullan, Hunter James, Kevin Brewer, Timothy Cartwright, Heather Crow, Gregory Brooks, Geological Survey of Canada	**Challenges and Improvements Using 3-D Borehole Electrical Resistivity Tomography to Characterize Fractures** Judy Robinson, Lee Slater, Dimitrios Ntarlagiannis, Rutgers Univ-Newark; Timothy Johnson, Pacific Northwest Nat'l Laboratory; Frederick Day-Lewis, Thomas Imbrigotta, Carole Johnson, Pierre Lacombe, John Lane, Allen Shapiro, Claire Tiedeman, US Geological Survey	**EM and Magnetic Methods Used at the Visne Angar Archaeological Site, Gotland Island, Sweden** William Sauck, Western Michigan Univ; Frederic Pearl, Texas A&M Univ-Galveston
9:20 – 9:40 am	**Making the "Decision" for Geophysical Classification of Munitions and Ordnance** Darren Mortimer, Geosoft Inc.; Tom Furuya, Dean Keiswetter, Leidos Holdings, Inc.	**Optimized Interpretation of SAGEEP 2011 Blind Refraction Data with Fresnel Volume Tomography and Plus-Minus Refraction** Siegfried Rohdewald, Intelligent Resources Inc.	**Time-Lapse Electrical Resistivity Imaging of Peatland Gas Content Incorporating Induced Polarization Data** Neil Terry, Lee Slater, Rutgers Univ-Newark	**Archaeological Surveys using Multichannel Ground Penetrating Radar Array Systems** Alexandra Novo, IDS North America
9:40 – 10:00 am	**A Combined Joint Diagonalization-MUSIC Algorithm for Estimating Locations of Subsurface Targets** Yinlin Wang, John Sigman, Kevin O'Neill, Fridon Shubitidze, Dartmouth College; Benjamin Barrowes, ERDC CRREL	**Frequency-Dependent Traveltime Tomography for 2-D and 3-D Near-Surface Seismic Refraction Data** Colin Zelt, Jianxiong Chen, Rice University	**A New Tool for Void Detection Using Combined MMR and ERT** Douglas LaBrecque, Daniel LaBrecque, Daniel Casale, Russell Brigham, Multi-Phase Technologies, LLC	**Flat Rock Community Mapping Project: Geophysical Survey of an Historic African American Cemetery** Lain Graham, Jeffrey Glover, Andrew Vaughan, Daniel Bigman, Georgia State Univ
10:40 – 11:00 am	**Data Analysis Workflow for UXO Classification** Dean Keiswetter, Tom Furuya, Leidos Holdings, Inc.	**Application of Frequency-Dependent Traveltime Tomography (FDTT) to 2-D and 3-D Near-Surface Seismic Data at a Shallow Groundwater Contamination Site, Rifle, CO** Jianxiong Chen, Colin Zelt, Alan Levander, Rice University	**Intelligent Meshing For Geophysical Inverse Problems Using Unstructured Meshes** Ting-Kuei Chou, Michel Chouteau, École Polytechnique de Montréal; Jean-Sébastien Dubé, École de Technologie Supérieure	**Multi-Sensor Geophysical Fusion for Improved Sub-Surface Imaging at Historic Camptown Cemetery, Brenham, Texas** Tate Meehan, Mark Everett, Timothy De Smet, Texas A&M Univ
11:00 – 11:20 am	**Munitions Classification Methods Applied to Dynamic EMI Sensor Data** Gregory Schultz, Joe Keranen, Jonathan Miller, White River Technologies	**Application of Frequency-Dependent Traveltime Tomography & Full Waveform Inversion to the Data Used in the Blind Test at the 2011 SAGEEP Meeting** Jianxiong Chen, Colin Zelt, Rice Univ; Priyank Jaiswal, Oklahoma State Univ	**Large-Scale Distributed 2-D/3-D FDIP System Based on ZigBee Network and GPS** Xuefeng Zhao, Hongchun Yao, Jieting Qiu, Champion Geophysical Technology; Rujun Chen, Central South Univ; Xiaolu Xi	**Imaging Archaeological Remains Using a Fixed-Frequency Multi-Offset Mobile EM Induction Tool** Kim Tremaine, John Lopez, Tremaine and Associates, Inc; Mehrez Elwaseif, Univ of Wyoming
11:20 – 11:40 am	**Results of TEM-8g Demonstration for Detection of 20mm at Depth** Jeffrey Gamey, Battelle; Bruce Barrow, Leidos Holding, Inc.	**Surface Wave & Passive Seismology** Chair: Christopher Buckman Co-Chair: Melvyn Best		
11:40 – 12:00 pm	**Investigating EMI Sensing Phenomena for Subsurface Intermediate Electrically Conducting Targets Detection** Fridon Shubitidze, Kevin O'Neill, Dartmouth College; Benjamin Barrowes, ERDC CRREL	**Seismic Characterization of Near-Surface Anisotropic Structure** Hao Xie, Lanbo Liu, University of Connecticut		

POSTER SESSION 2 – EXHIBIT HALL FOYER

Open 8:00 am – 6:00 pm Wednesday March 19, 2014

POSTER SUMMARIES 7:40 am – 8:20 am Simmons Room

1. **Geoelectric Imaging Scores over MASW in Geotechnical Site Characterization**
   Rambhatla G. Sastry, Sumedha Chahar, IIT Roorkee
2. **Joint Inversion and Interpretation of Seismic Refraction and Resistivity-Time Domain IP Data from the ESS Site at Lund, Sweden**
   Marcus Wennermark, Kristofer Hellman, Torleif Dahlin, Lund University; Thomas Guenther, Leibniz Institute of Applied Geophysics
3. **TSWD - State of the Art and Current Developments**
   Ingrid Kreutzer, Vienna University of Technology
4. **Experimental and Theoretical Studies of the Temperature Dependence of Spectral Induced Polarization (SIP) Based on a Membrane Polarization Model**
   Andreas Hördt, Katharina Bairlein, Sven Nordsiek, TU Braunschweig; Matthias Bücker, University of Bonn
5. **Estimation of Van Genuchten-Mualem Parameters and the Saturated Hydraulic Conductivity from SIP Measurements**
   Andreas Hördt, Sven Nordsiek, Efstathios Diamantopoulos, Wolfgang Durner, TU Braunschweig
6. **Geophysical Investigations of a Rural Water Point Installation Program in Nampula Province, Mozambique**
   Farisse Chirindja, Björn Andersson, Tom Björkström, Torleif Dahlin, Lund University; Diniz Juizo, Eduardo Mondlane University
7. **Hydrogeophysical Imaging Constrained by Groundwater Flow Modeling and Laboratory Measurements of Electrical Properties of Undisturbed Soils at Historical Grant-Kohrs Ranch, MT**
   Hugo Bertete Aguirre, Shallow Electromagnetic and Electroresistivity Facility, Montana Tech.; Glenn D. Shaw, Geological Engineering, Montana Tech.
8. **Use of Geophysical Methods and Satellite Imagery for Producing 7.5-Minute Quadrangle Geologic Maps in Washington State**
   Recep Cakir, Joe Dragovich, Timothy Walsh, Meredith Payne, Washington State Department of Natural Resources; Sang-Ho Yun, Jet Propulsion Laboratory; Megan Anderson, Colorado College; Koichi Hayashi, Geometrics
9. **Integrated Approach with Electromagnetic Mapping and Direct-Push in Situ Measurement to Characterize Hydrocarbon-contaminated Ground**
   Yuji Mitsuhata, National Institute of Advanced Industrial Science and Technology
10. **Geophysical Investigations of Local Cemeteries in Eastern Pennsylvania**
    Emily Snyder, Laura Sherrod, Sebastien Treciak, Kutztown University; Carl Peterson
11. **Waveform Inversion of Rayleigh Waves for Shallow Shear-Wave Velocity Using a Conjugate Gradient Method**
    Lingli Gao, Jianghai Xia, Yudi Pan, China University of Geosciences
12. **Ground Penetrating Radar (GPR) Studies at Letoon at Kumluova-Fethiye-Mugla, Turkey**
    Nihan Hoskan, Fethi Ahmet Yuksel, Istanbul University; Kerim AVCI, Geometrik Mühendislik Müsavirlik Yer altı Arastırmaları; Ismail Erguder, Tki Kurumu; Ezel Babayigit, Tki Genel Mudurlügü; Sema Atik Korkmaz, Baskent University
13. **P-P and S-S Ground Roll Comparison**
    Brooke Briand; Priyank Jaiswal, Oklahoma State University
14. **Archeogeophysical (GPR) Studies at the Kazakhstan-Akmola-. Ereymentau-Kumay Valley 6th–7th Century Oghuz-Kipchak Kurgans**
    Fethi Ahmet Yuksel, Istanbul University; Ayman Dosimbayeva, Ministry of Information and Culture of the Republic of Kazakhstan; Kerim AVCI, Geometrik Mühendislik Müsavirlik Yer altı Arastırmaları
15. **Archeogeophysical (GPR) Studies at the Turkey-Manisa-Akhisar Thyateira Ancient City Archeological Excavation Site**
    Kerim Avci, Geometrik Mühendislik Müsavirlik Yer altı Arastırmaları; Fethi Ahmet Yuksel, Nihan Hoskan, Istanbul University; Engin Akdenlz, Adnan Menderes University
16. **Geophysical Investigation to Image a Roman-Era Villa**
    Gordon Osterman, Gary Farney, Jon Algeo, Rutgers University; Kimberly Brown, University of the Arts
17. **The GPR Measurements on Hagia Sophia's Surfaces Facing the Naos**
    Sonay Sakar, Republic of Turkey Ministry of Culture and Tourism; Fethi Ahmet Yuk,sel, Nihan Hoskan, Istanbul University; Emine Avci, Geometrik Engineering Consultancy Subsurface Research; Kerim Avci, Geometrik Mühendislik Müsavirlik Yer altı Arastırmaları; Kubra Erguven; Aslı Karaarslans Özcan, Aslı Architecture
18. **Field Measurement of Magnetic Resonance Tomography Using Elongated Transmitter and In-loop Receiver Arrays (MRTetra)**
    Chuandong Jiang; Mike Müller-Petke, Leibniz Institute for Applied Geophysics; Jun Lin, Jilin University

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	Live UXO Data Analysis Chair: Gregory Schultz	**Surface Wave & Passive Seismology** Chair: Christopher Buckman Co-Chair: Melvyn Best	**NMR & Magnetics** Chair: Denys Grombacher Co-Chair: Rick Hoover	**Karst, Tunnels & Other Cavities** Chair: Nedra Bonal
4:00 – 4:20 pm	**Implementation of Quality Control and Data Management for Production Classification Surveys** Gregory Schultz, Jonathan Miller, Joe Keranen, Fridon Shubitidze, White River Technologies	**The Application of Passive Microseismic Imaging for Monitoring Mining Safety** Haijiang Zhang, University of Science and Technology of China, Wantai-MST Microseismic Lab; Wenfa Yan, Beijing MiSeis Technologies	**Soil Moisture Profiling With Borehole NMR** Pablo Prado, One Resonance Sensors, LLC	**A Description of an Effective Sinkhole Investigation Approach: A Case Study of a Site in Greene County, Missouri** Stanley Nwokebuihe, Evgeniy Torgashov, Neil Anderson, Missouri S&T
4:20 – 4:40 pm	**An Expert-Free Technique for Live Site UXO Target Classification** John Sigman, Yinlin Wang, Kevin O'Neill, Fridon Shubitidze, Dartmouth College; Benjamin Barrowes, ERDC CRREL	**Use of MASW to Aid in Subsurface Characterization of Karst Conditions Under an Active Railway, Northwest Georgia** Christopher Buckman, Larry Sciple, AMEC Environment & Infrastructure	**Monitoring of Microbial Growth in Porous Media Using Low-Field Nuclear Magnetic Resonance** Chi Zhang	**New Approaches to Void Detection** Nedra Bonal, Leiph Preston, Sandia National Laboratories
4:40 – 5:00 pm	**EMI Data Classification Processing at Operational Munitions Sites** Gregory Schultz, Joe Keranen, Jonathan Miller, Fridon Shubitidze, White River Technologies	**An MASW Survey to Assess Flood Damaged Road – A Case History** Koya Suto, Terra Australis Geophysica Pty Ltd; Ross Kristinof, Sinclair Knight Merz	**Application of Potential Geophysical Fields in Ore Deposits: Inverse Problem Solution under Complex Conditions and 3-D Gravity-Magnetic Field Modeling** Lev Eppelbaum, Tel Aviv University	**A Near-Surface Geophysical Investigation of Sinkhole Formation, Nachusa Grasslands, Northern Illinois** Lauren Schroeder, Philip Carpenter, Northern Illinois Univ
5:00 – 5:20 pm	**Live Site UXO Dynamic Data Processing Using Advanced EMI Models** Fridon Shubitidze, Kevin O'Neill Dartmouth College; Benjamin Barrowes, ERDC CRREL; Irma Shamatava, White River Technologies	**Critical Depths for Higher Modes by Minimally-Invasive Seismic Profiling: Simulations and Field Test** Shibin Lin, Jeramy Ashlock, Iowa State University	**Nuclear Magnetic Resonance – Field Applications of a New Tool for Enhanced Environmental Investigations** Matt Spurlin, ARCADIS	**Optimization of Mobile Capacitatively-Coupled Geophysical Surveys for Tunnel Discrimination** Tomas Goode, MWH Global; T.P.A. Ferré, Hydrology and Water Resources, University of Arizona; Andrew Hinnell, WorleyParsons Canada
5:20 – 5:40 pm	**Advanced Models Applied to Live Site UXO Targets Classification** Fridon Shubitidze, Kevin O'Neill, Dartmouth College; Benjamin Barrowes, ERDC CRREL; Irma Shamatava, White River Technologies		**Development of a Novel MRS-TEM Combined System and a Joint Inversion Algorithm for MRS and TEM Data** Ling Wan; Jun Lin, Tingting Lin, Jilin Univ; Xinlei Shang	

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1:40 – 2:00 pm	**Comparison and Evaluation of Advanced UXO Classification Technologies** Steve Stacy, ARCADIS US, Inc.	**Self-Adaptive Method for High-Frequency Dispersion Curve Determination** Zhiqu Lu, Nat'l Center for Physical Acoustics, Univ of Mississippi	**The Research and Practice of MRS Signals in Frozen Soil Layer Structure at Qinghai-Tibet Plateau** Liu Hao, Li Zhenyu, Huangjian Wu, China Univ of Geosciences	**What is Metadata and Why Do You Want It: The Key to Effective Geophysical Data Management** Darren Mortimer, Natalie Green, Geosoft Inc; Nigel Halsall, Geosoft Europe Ltd.
2:00 – 2:20 pm	**Classification of Cued MetalMapper Data Using Data Mining Techniques** Darrell Hall, URS (Omaha Office)	**Love-Wave Waveform Inversion for Shallow Shear-Wave Velocity Using a Conjugate Gradient Algorithm** Yudi Pan, Jianghai Xia, Lingli Gao, China Univ of Geosciences	**First Evidence of Surface-NMR Signals Detected Using a B-Field Sensor** Mike Müller-Petke, Leibniz Institute for Applied Geophysics; Aaron Davis, CSIRO; Ronny Stolz, IPHT Jena	**Cloud Based Electrical Geophysical Monitoring** Roelof Versteeg, Doug Johnson, Alex Henrie, Subsurface Insights; Timothy Johnson, Pacific Northwest National Lab
2:20 – 2:40 pm	**A Detection Filter for Advanced Electromagnetic Induction Sensors Used for Unexploded Ordnance Surveys** Bruce Barrow	**The Use of Active Love-Wave Techniques for Characterization of Seismographic Station Sites in California & the Central & Eastern US** Antony Martin, GEOVision, Inc.; Alan Yong, US Geological Survey; Lawrence Salomone, Pinnacle Specialty Group, Inc.	**Estimating the Larmor Frequency for Short Duration Signals** Denys Grombacher, Rosemary Knight, Stanford Univ	**Web-Based Database of Integrated Geophysical Method for Levee Safety Assessment** Koichi Hayashi, Geometrics; Toru Takahashi, Fukada Geological Institute; Tomio Inazaki, Public Works Research Institute; Kaoru Kitao, Cubeworks, Inc.; Takaho Kita
2:40 – 3:00 pm	**UXO Mapping Efforts Used in Support of DOT Projects Outside of USACE Oversight** Christopher Buckman, Helen Corley, Raye Lahti, AMEC Environment & Infrastructure	**Seismic Site Response Classification Based on Multi-Mode Multi-Channel Analysis of Surface Waves: Integration of Downhole Acoustic Televiewer Imaging and Ultrasonic Vp and Vs** Abdelmoneam Raef, Sultan Qaboos University; Sabreen Gad, Amelia Fader, Kansas State Univ	**Characterizing Hydrocarbon Contamination in Porous Media with Multi-Parameter NMR** Emily Fay, Rosemary Knight, Stanford Univ; Boqin Sun, Zheng Yang, Eric Daniels Chevron Energy Technology Company	
3:00 – 3:20 pm	**Geophysical & UXO Operations in Support of Soil Remediation, South East Kuwait** Raye Lahti, AMEC Environment & Infrastructure; Raymond Getchell, Gavin Cuthbert, AMEC; Dhari Al-Gharabally, Kuwait Oil Company	**Multi-Phase Analysis of Surface Wave Data for the Detailed Imaging and Characterization of Levee Systems** Tomio Inazaki, Public Works Research Institute; Koichi Hayashi, Geometrics	**Design of Rotation Matrix and Para-Whole Space Model for Underground Magnetic Resonance Sounding Studies** Tingting Lin, Jun Lin, Tiehu Fan, Jilin Univ; Xinlei Shang; Ling Wan, China Univ of Sciences	**PAVEMON: A GIS-based PAVEment MONitoring System Using Large Amounts of Near-Surface Geophysical Sensor Data** Salar Shahini Shamsabadi, Ming L. Wang, Ralf Birken, Northeastern Univ
3:20 – 3:40 pm		**Improvements to the Near-Surface Velocity Model of the East San Francisco Bay Area using Surface Wave Methods** Mitchell Craig, Rania Aql, Seth Shuler, California State Univ, East Bay; Koichi Hayashi, Geometrics	**Estimation of Hydraulic Conductivity in Unconsolidated Near-Surface Aquifers Using NMR Geophysics** Dave Walsh, Elliot Grunewald, Mercer Barrows, Vista-Clara, Inc.; James Butler, Gaisheng Liu, Steve Knobbe, Ed Reboulet, Kansas Geological Survey; Rosemary Knight, Stanford Univ; Andrew Parsekian, Univ of Wyoming	

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EEGS wishes to acknowledge and extend its gratitude to the following companies and associations for exhibiting at SAGEEP 2013. It is through their support that we are able to keep the cost of attending SAGEEP affordable. We ask that you take a few moments and visit with each of the exhibitors listed below.

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Contact: Koya Suto
Email: secretariat@aseg.org.au
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ASEG is a professional society with approximately 1,400 minerals and petroleum geophysicists, and environmental and engineering geophysicists. ASEG publishes a journal, *Exploration Geophysics*, jointly with SEG Japan and Korean SEG, and a magazine *Preview*. ASEG Conferences are held every eighteen months. Next conference is in Perth in February 2015. See http://www.conference.aseg.org.au/.

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